

PETROLERA NACIONAL SA
EDIFICIO PLAZA EDISON, PISO 9
AVE. RICARDO J. ALFARO
PANAMA
Panama



Attention of : Ms. R. Rodriguez

Analysis Report

Report number : 13201/00025900.1/L/19 Composite prep date : 2019-03-26
Main Object : GREAT CRISTOBAL Place of sampling : Puerto Internacional Punta Rincon
Report Date : 2019-03-27 Date received : 2019-03-26
Date of issue : 2019-03-27 Date completed : 2019-03-27
Sample object : 9002 Sample number : 7974436
Sample type : Composite
Sample submitted as : ULSD
Marked : Shore tank 9002 single tank composite prepared from upper, middle, lower after discharge

NAME	METHOD	UNIT	SPECS		RESULT
			Min	Max	
Gravity API at 60 °F	ASTM D 4052	°API	32.0		33.9
Appearance	ASTM D 4176	-		B & C	N/A (dyed)
Color ASTM	ASTM D 1500	-		2.5	N/A (dyed)
Water and Sediment	ASTM D 2709	vol %		0.05	< 0.01
Flash point (PM) procedure A	ASTM D 93	°C	60		71.0
Sulphur (S)	ASTM D 5453	mg/kg		15	5.5
Ash Content	ASTM D 482	mass %		0.01	< 0.001
Micro Carbon Residue (10% bottom)	ASTM D 4530 / D 86	mass %		0.30	< 0.10
Copper Strip Corrosion (3 hrs / 50 °C)	ASTM D 130	-		2	1a
Kinematic Viscosity at 40°C	ASTM D 445	mm²/s	1.9	4.1	3.238
Cetane Index	ASTM D 976	-	45		46.4
Distillation	ASTM D 86				
10% Recovered		°C		Report	207.0
50% Recovered		°C		Report	271.5
90% Recovered		°C	282	338	337.0
Final boiling point		°C		Report	364.5
Residue		vol %		2	1.3
Loss		vol %		2	0.7
Lubricity Test at 60 °C (Wear Scar Diameter)	ASTM D 6079	µm		520	440
Conductivity at 25°C	ASTM D 2624	pS/m	25		601
Biodiesel	ASTM D 7371	vol %		0.1	< 0.100

Signed by: Everner Jimenez - Laboratory Manager/Assistant Mgr
Issued by: Core Laboratories Panama, S.A.
Place and date of issue: Panama City - 2019-03-27

All results in this report refer to the sample(s) tested as taken or submitted like specified in this Analysis report. Uncertainties, available on request, apply in the evaluation of the test results. All tests are conducted according to the latest version of the methods, unless another version is specifically indicated. Where available and for convenience purposes, the tested sample has been checked for compliance with supplied specifications, without accepting any liability. In case of dispute or concern, we refer to the interpretation of test results as defined in ASTM D3244, IP 367, ISO 4259 or GOST 33701. This report shall not be partially copied and reproduced without the written permission of the laboratory.